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**From:** Jon Schmidt [jon.schmidt@exp.com]  
**Sent:** 6/14/2022 5:51:52 PM  
**To:** Johnson, Ken-E [Johnson.Ken-E@epa.gov]  
**CC:** Bierschenk, Arnold [bierschenk.arnold@epa.gov]; Maples, Brandon [Maples.Brandon@epa.gov]; Ussery, Ian [Ussery.Ian@epa.gov]; Friesenhahn, Brody [friesenhahn.brody@epa.gov]; Ellinger, Scott [Ellinger.Scott@epa.gov]; McEvoy, Molly [mcevoy.molly@epa.gov]; Liu, Matthew [Liu.Matthew@epa.gov]  
**Subject:** RE: Class VI permitting  
**Attachments:** ATT00001.txt

Very helpful. Thanks. Have several projects in TX moving forward and landowners savvy with O&G rights are asking a lot of questions. Thanks, Jon

**Jon Schmidt, Ph.D.**

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**From:** Johnson, Ken-E <Johnson.Ken-E@epa.gov>  
**Sent:** Tuesday, June 14, 2022 12:48 PM  
**To:** Jon Schmidt <jon.schmidt@exp.com>  
**Cc:** Bierschenk, Arnold <bierschenk.arnold@epa.gov>; Maples, Brandon <Maples.Brandon@epa.gov>; Ussery, Ian <Ussery.Ian@epa.gov>; Friesenhahn, Brody <friesenhahn.brody@epa.gov>; Ellinger, Scott <Ellinger.Scott@epa.gov>; McEvoy, Molly <mcevoy.molly@epa.gov>; Liu, Matthew <Liu.Matthew@epa.gov>  
**Subject:** RE: Class VI permitting



Dr. Schmidt –

Here is a reply to another entity from EPA UIC HQ about penetrating a Class VI plume with a new well:

“We would strongly recommend avoiding penetrating the CO2 plume to extract oil, natural gas, minerals, etc., below the Class VI injection zone. Any wells that penetrate the confining formations to the Class VI injection zone could create potential conduits for CO2 or formation fluid migration to underground sources of drinking water (USDWs) and/or to the surface. The entity proposing to extract oil, natural gas or minerals may need to obtain a UIC permit depending on the circumstances (e.g., Class III for mineral solution mining). For the Class VI permittee, such an additional penetration to the confining zone may be cause for revocation and reissuance or modification of the Class VI permit. Additionally, a Class VI permittee would need to update its AOR and corrective action plan to account for the new penetration of the confining zone, which then must be approved by the Director and incorporated into the permit. However, we are not aware of any federal regulations that would automatically preclude such an activity if the operator was able to demonstrate that the activity would not endanger USDWs. Depending on the facts and circumstances, EPA could potentially take emergency action under SDWA 1431 to prevent an operator from penetrating the Class VI injection zone/CO2 plume if such action is likely to result in a contaminant entering a USDW which may present an imminent and substantial endangerment to the health of persons.”

Hopefully this is helpful for you.

Ken Johnson, PE  
R6 Ground Water/UIC Section Chief  
214-665-8473 (office)  

Ex. 6 Personal Privacy (PP)

 (cell)  
Mail to: EPA Region 6  
1201 Elm Street, MC 6WDDG  
Suite 500  
Dallas, TX 75270

In Office: Tuesday-Wednesday  
Telework: Monday, Thursday, Friday

Class I hazardous injection wells: <https://www.epa.gov/uic/guidelines-completing-class-i-injection-well-no-migration-petitions>  
Class VI injection wells: [https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-carbon-dioxide#Gui\\_docs](https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-carbon-dioxide#Gui_docs)  
Induced Seismicity: <https://www.epa.gov/sites/production/files/2015-08/documents/induced-seismicity-201502.pdf>  
<https://www.epa.gov/uic/underground-injection-control-epa-region-6-ar-la-nm-ok-and-tx>

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**From:** Jon Schmidt <[jon.schmidt@exp.com](mailto:jon.schmidt@exp.com)>  
**Sent:** Friday, May 20, 2022 9:03 AM  
**To:** Johnson, Ken-E <[Johnson.Ken-E@epa.gov](mailto:Johnson.Ken-E@epa.gov)>  
**Cc:** Przyborski, Jay <[Przyborski.Jay@epa.gov](mailto:Przyborski.Jay@epa.gov)>  
**Subject:** RE: Class VI permitting

Thanks Ken. Appreciate it. Let me know if you hear back from HQ. j

**Jon Schmidt, Ph.D.**

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**From:** Johnson, Ken-E <[Johnson.Ken-E@epa.gov](mailto:Johnson.Ken-E@epa.gov)>  
**Sent:** Friday, May 20, 2022 8:59 AM  
**To:** Jon Schmidt <[jon.schmidt@exp.com](mailto:jon.schmidt@exp.com)>  
**Cc:** Przyborski, Jay <[Przyborski.Jay@epa.gov](mailto:Przyborski.Jay@epa.gov)>  
**Subject:** RE: Class VI permitting

Dr. Schmidt –

1. In some cases the surface rights owners and mineral rights owners are the same and sometimes they are distinct. Also, historically saline non-hydrocarbon production intervals haven't come into to play on mineral rights and oil and gas royalty interests. The rules will vary from state to state (and on tribal and federal lands) on mineral rights versus surface ownership and the applicability of either or both to pore space ownership, but applicants will need to address those issues outside of the UIC permit process through state rules.

2. Regarding “not penetrating the plume” for new producing wells, I’m waiting on EPA HQ UIC to provide a response back on this.

Ken Johnson, PE  
R6 Ground Water/UIC Section Chief  
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Suite 500  
Dallas, TX 75270

Class I hazardous injection wells: <https://www.epa.gov/uic/guidelines-completing-class-i-injection-well-no-migration-petitions>

Class VI injection wells: [https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-carbon-dioxide#Gui\\_docs](https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-carbon-dioxide#Gui_docs)

Induced Seismicity: <https://www.epa.gov/sites/production/files/2015-08/documents/induced-seismicity-201502.pdf>

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**From:** Jon Schmidt <[jon.schmidt@exp.com](mailto:jon.schmidt@exp.com)>  
**Sent:** Thursday, May 19, 2022 3:34 PM  
**To:** Johnson, Ken-E <[Johnson.Ken-E@epa.gov](mailto:Johnson.Ken-E@epa.gov)>  
**Cc:** Przyborski, Jay <[Przyborski.Jay@epa.gov](mailto:Przyborski.Jay@epa.gov)>  
**Subject:** RE: Class VI permitting

Thank you again for the information. One question came up during my landowner meeting that I wasn't 100% sure of:

If there are O&G formations below the sequestration formation (~20,000+ feet), those are forever inaccessible, correct? They can't drill through the sequestration formation to access those resources anymore.

Also, mineral rights owners would also need pore space agreements the same as surface rights owners, correct? Thanks, Jon

**Jon Schmidt, Ph.D.**

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**From:** Johnson, Ken-E <[Johnson.Ken-E@epa.gov](mailto:Johnson.Ken-E@epa.gov)>  
**Sent:** Wednesday, May 18, 2022 3:59 PM  
**To:** Jon Schmidt <[jon.schmidt@exp.com](mailto:jon.schmidt@exp.com)>  
**Cc:** Przyborski, Jay <[Przyborski.Jay@epa.gov](mailto:Przyborski.Jay@epa.gov)>  
**Subject:** RE: Class VI permitting

Jon – Our answers to your questions are shown below. The purple text are the answers provided by our Class VI attorney in the Office of Regional Counsel, Jay Przyborski who is cc'd. Mine is in red.

–Does EPA review the pore space agreements? No.

—Does the liability reside with the sequestration operator even after injection has ceased? Yes. If so, for 50 years? Or in perpetuity? For a thorough discussion of this issue, see the bottom of page 77271 of the Federal Register notice for the Final Rule: <https://www.govinfo.gov/content/pkg/FR-2010-12-10/pdf/2010-29954.pdf>. An owner or operator will generally be subject to enforcement till site closure is approved under 40 CFR 146.93. After site closure, an owner operator can still face liability for regulatory noncompliance such as providing erroneous data to support site closure. An owner or operator may always be subject to an order the Administrator deems necessary to protect the health of persons under section 1431 of the SDWA after site closure if there is fluid migration that causes or threatens imminent and substantial endangerment to a USDW.

The two approved states have state laws providing for liability transfer to the state at site closure, and Louisiana is also pursuing a similar framework. We anticipate most states seeking primacy will be interested in such a mechanism.

—Other than the installation of new wells or injection facilities, are there are surface use restrictions (have some landowners who agree to the pore space agreement but want to develop the surface with a housing development). We have some proposed sites in specialized surface areas such wildlife as refuges and potentially in tribal nations. The wildlife refuges may present surface use issues that need to be negotiated with another agency (state or federal) and the tribal lands situations will require tribal consultations. In general, I think 40 CFR 146.82 is the only place where surface use is mentioned in the Class VI regulations as well as a reference to 40 CFR 144.31(e)(7) and (9). In general, applicants are indicating that they will have surface access and use of their sites. The UIC permit does not generally deal with surface use restrictions.

Other than those unique surface areas already mentioned, surface use restrictions may impact development of Class VI transportation infrastructure (pipelines – US DOT) and other state and federal agencies (US DOI and US FWS as examples) and might restrict monitoring activities such as seismic surveys.

—do you know the status of Louisiana's or Texas' application for primacy of the Class VI well permitting? Region 6 has determined the Louisiana Class VI application is complete and, on May 10, 2022, transmitted to the EPA Office of Water a recommendation to proceed to formal rulemaking. Texas is in the process of developing rules for a state Class VI program but has not submitted a primacy application to EPA.

Hope this is helpful.

Ken Johnson, PE  
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Class VI injection wells: [https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-carbon-dioxide#Gui\\_docs](https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-carbon-dioxide#Gui_docs)  
Induced Seismicity: <https://www.epa.gov/sites/production/files/2015-08/documents/induced-seismicity-201502.pdf>

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**From:** Jon Schmidt <[jon.schmidt@exp.com](mailto:jon.schmidt@exp.com)>  
**Sent:** Wednesday, May 18, 2022 2:34 PM  
**To:** Johnson, Ken-E <[Johnson.Ken-E@epa.gov](mailto:Johnson.Ken-E@epa.gov)>  
**Subject:** RE: Class VI permitting  
**Importance:** High

Following up on this request, I have a call with a group of surface rights landowners I need to address these questions with. Thanks, Jon

**Jon Schmidt, Ph.D.**

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**From:** Jon Schmidt

**Sent:** Wednesday, May 11, 2022 4:38 PM

**To:** Johnson, Ken-E <[Johnson.Ken-E@epa.gov](mailto:Johnson.Ken-E@epa.gov)>

**Subject:** Class VI permitting

Ken, I have a client that has a couple of questions regarding Class VI permitting, if it is better I call, let me know a good number/time this week to do so.

—Does EPA review the pore space agreements?

—Does the liability reside with the sequestration operator even after injection has ceased? If so, for 50 years? Or in perpetuity?

—Other than the installation of new wells or injection facilities, are there are surface use restrictions (have some landowners who agree to the pore space agreement but want to develop the surface with a housing development).

—do you know the status of Louisiana's or Texas' application for primacy of the Class VI well permitting?

Thanks, appreciate the time/information. Jon



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